

# ARC-1209

12.1" Intel® Atom™ SoC Processor E3845 Fanless Rugged  
Touch Panel PC with IET Expansion

## Quick Reference Guide

1<sup>st</sup> Ed – 07 January 2015

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## FCC Statement



THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

## A Message to the Customer

### ***Avalue Customer Services***

Each and every Avalue's product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Avalue device is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Avalue has come to be known.

Your satisfaction is our primary concern. Here is a guide to Avalue's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

### ***Technical Support***

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult the user's manual first.

To receive the latest version of the user's manual; please visit our Web site at:

<http://www.avalue.com.tw/>

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# 1. Getting Started

## 1.1 Safety Precautions

### Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

### Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

## 1.2 Packing List

- 1 x ARC-1209 Panel PC
- 1 x Driver/Utility DVD-ROM
- 1 x Power Adapter
- 4 x screws for VESA



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If any of the above items is damaged or missing, contact your retailer.

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## 1.3 System Specifications

Panel	
LCD Size	12.1", 4:3
Display Type	XGA
Resolution	1024 x 768
Pixel pitch	0.1905 mm (H) x 0.1905 mm (V)
Luminance	600 cd/m <sup>2</sup>
Contrast ratio	700
Viewing angle	80 (U), 80 (D), 80 (L), 80 (R)
Response time	16ms
Backlight	LED
Touch Type	5 Wires resistive
Touch Light Transmission	80%
Touch Controller	Onboard USB touch (PenMount)
System	
SBC	ARC-BYT
Processor	Intel® Atom™ E3845 4-Core 1.91GHz
I/O Chipset	EC ITE IT8528E
System Memory	1 x 204-Pin DDR3L 1333MHz SO-DIMM up to 8 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./1sec.step
H/W Status Monitor	Monitoring SYSTEM Temperature and Voltage with Auto Throttling Control
Expansion	1 x Mini PCIe Support mSATA 1 x Optional 80-pin Expansion
Storage	1 x 2.5" Drive Bay
I/O	
USB	1 x USB 3.0, 3 x USB 2.0
SATA	1 x SATA II
Com Port	1 x RS-232/422/485 (Factory Optional) 1 x RS-232
Other	1 x WiFi, 3 x Knockouts for Antenna Mounting
Display	
Chipset	Intel® Valleyview SoC integrated Graphics Supports optional dual display
Resolution	HDMI: Max. resolution 1920x1200 @ 60Hz
Dual Display	HDMI + LVDS
Audio	

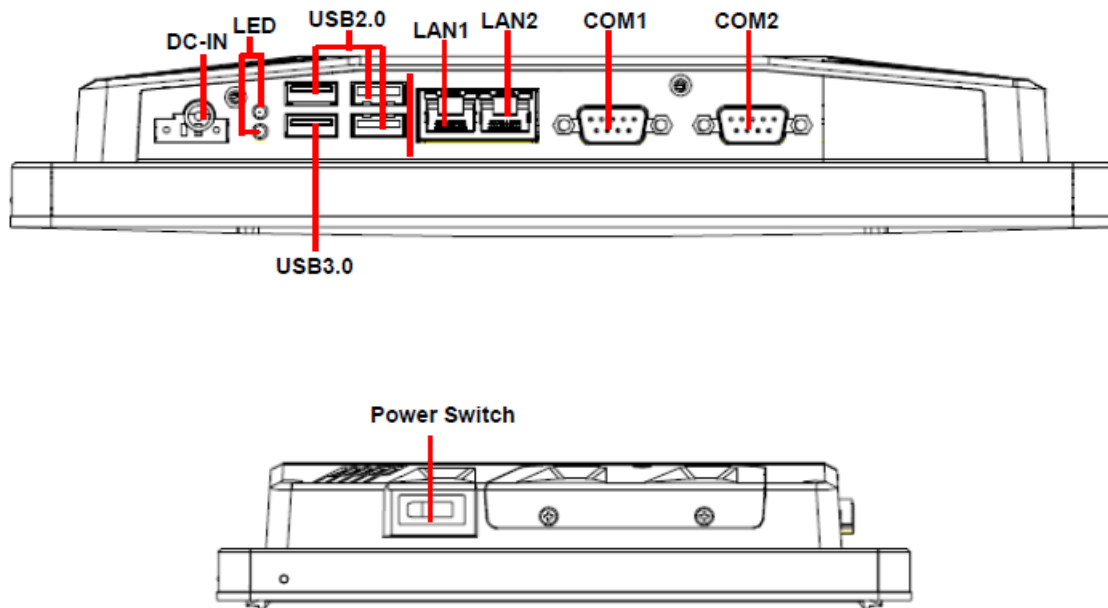
<b>Audio Codec</b>	Realtek ALC892
<b>Audio Interface</b>	Speaker Out
<b>Speaker Output</b>	2 x 1W
<b>Ethernet</b>	
<b>Chipset</b>	2 x Intel® I210IT
<b>Ethernet Interface</b>	10/100/1000 Base-Tx GbE compatible
<b>Lan Port</b>	2 x RJ-45
<b>Ethernet</b>	
<b>Power Connector</b>	Lockable DC Jack
<b>Power Requirement</b>	+12V ~ +26V
<b>Power Type</b>	AT/ATX (ATX is default setting)
<b>Adapter</b>	Input: 100 ~ 240Vac/ 50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter)
<b>Ethernet</b>	
<b>System Fan</b>	Fanless
<b>Construction - Front</b>	Silver Aluminum
<b>Construction – Rear</b>	Black
<b>Dimension</b>	284 x 223 x 46.3 mm
<b>Weight</b>	2.4 Kgs
<b>Operating Temperature</b>	-30°C ~ 60°C (-22°F ~ 140°F)
<b>Storage Temperature</b>	-30°C ~ 70°C (-22°F ~ 158°F)
<b>Operating Humidity</b>	0% ~ 90% Relative Humidity, Non-condensing
<b>Vibration Test</b>	With SSD/mSATA : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
<b>Shock Test</b>	Operating with SSD/CFast/mSATA : MIL-STD-810G, Method 516.6, Procedure I, functional shock=20G
<b>Certifications</b>	CE, FCC Class B
<b>OS Information</b>	Win 7, Win 8, Linux



**Note:** Specifications are subject to change without notice.

## 1.4 System Overview

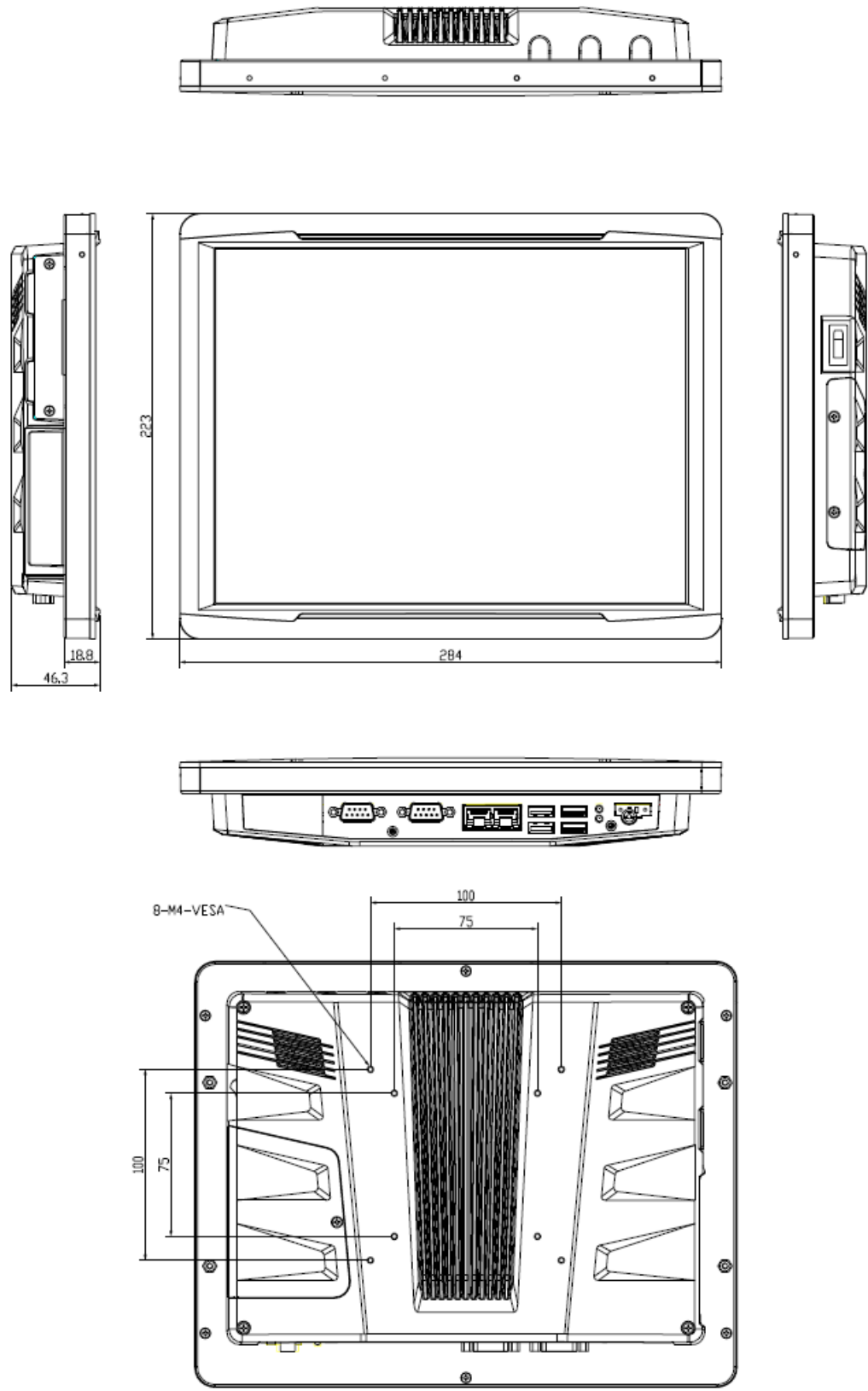
### 1.4.1 I/O View



### Connectors

Label	Function	Note
DC-IN	DC Power-in connector	
COM1/2	Serial port 1/2 connector	DB-9 male connector
USB	3 x USB 2.0 connector 1 x USB 3.0 connector	
LAN1/2	RJ-45 Ethernet 1/2	
LED	HDD/Power LED indicator	
Power Switch	Power on button	

1.5 System Dimensions



(Unit: mm)



## 2. Hardware Configuration

For advanced information, please refer to:

- 1- ARC-BYT User's Manual
- 2- ARC-BYT DB-A/B/C included in this manual.

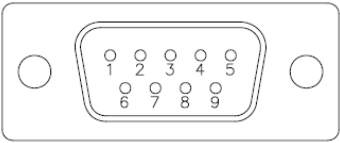
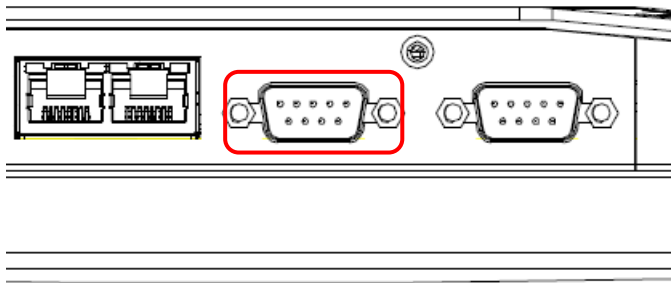


**Note:** If you need more information, please visit our website:

<http://www.avalue.com.tw>

2.1 ARC-1209 connector mapping

2.1.1 Serial port 1 connector (COM1)



RS-232

Signal	PIN	PIN	Signal
NDCDA#	1	6	NDSRA#
NRXDA	2	7	NRTSA#
NTXDA	3	8	NCTSA#
NDTRA#	4	9	NRIA#
GND	5		

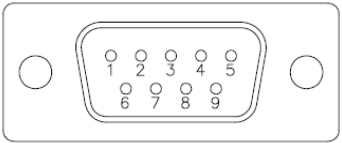
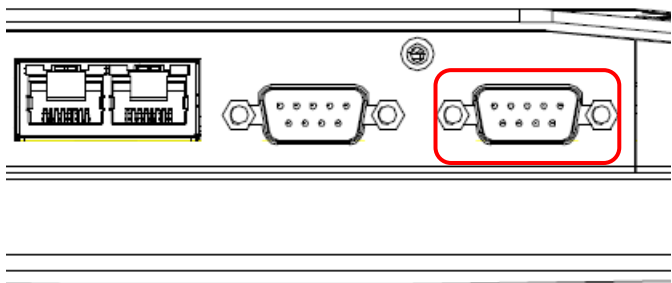
RS-485

Signal	PIN	PIN	Signal
DATA-	1	6	NC
DATA+	2	7	NC
NC	3	8	NC
NC	4	9	NC
GND	5		

RS-422

Signal	PIN	PIN	Signal
TxD-	1	6	NC
TxD+	2	7	NC
RxD+	3	8	NC
RxD-	4	9	NC
GND	5		

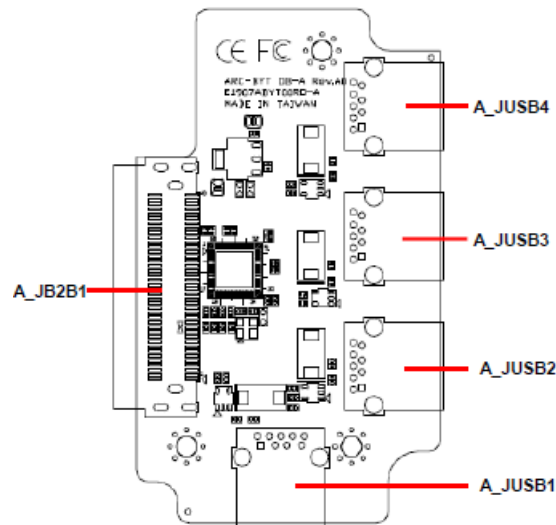
2.1.2 Serial port 2 connector (COM2)



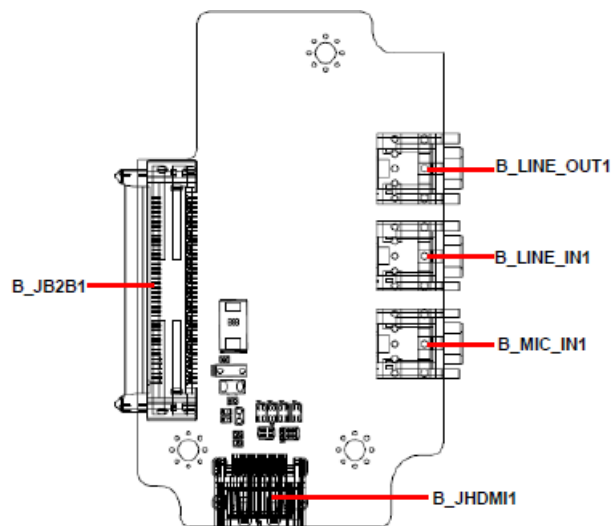
Signal	PIN	PIN	Signal
NDCDB#	1	6	NDSRB#
NRXDB	2	7	NRTSB#
NTXDB	3	8	NCTSB#
NDTRB#	4	9	NRIB#
GND	5		

## 2.2 ARC-BYT DB-A/B/C Overviews

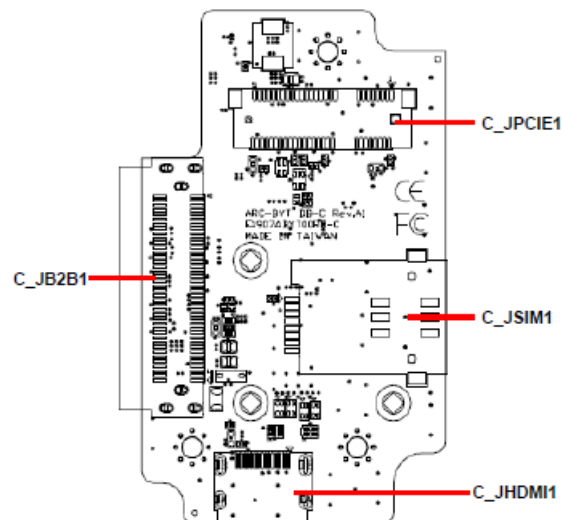
### 2.2.1 ARC-BYT DB-A



### 2.2.2 ARC-BYT DB-B



### 2.2.3 ARC-BYT DB-C



## 2.3 ARC-BYT DB-A/B/C Connector list

### 2.3.1 ARC-BYT DB-A

#### Connectors

Label	Function	Note
A_JUSB1~4	USB3.0 connector 1~4	
A_JB2B1	B2B connector	

### 2.3.2 ARC-BYT DB-B

#### Connectors

Label	Function	Note
B_LINE_OUT1	Line-out audio jack	
B_LINE_IN1	Line-in audio jack	
B_MIC_IN1	Mic-in audio jack	
B_JHDMI1	HDMI connector	
B_JB2B1	B2B connector	

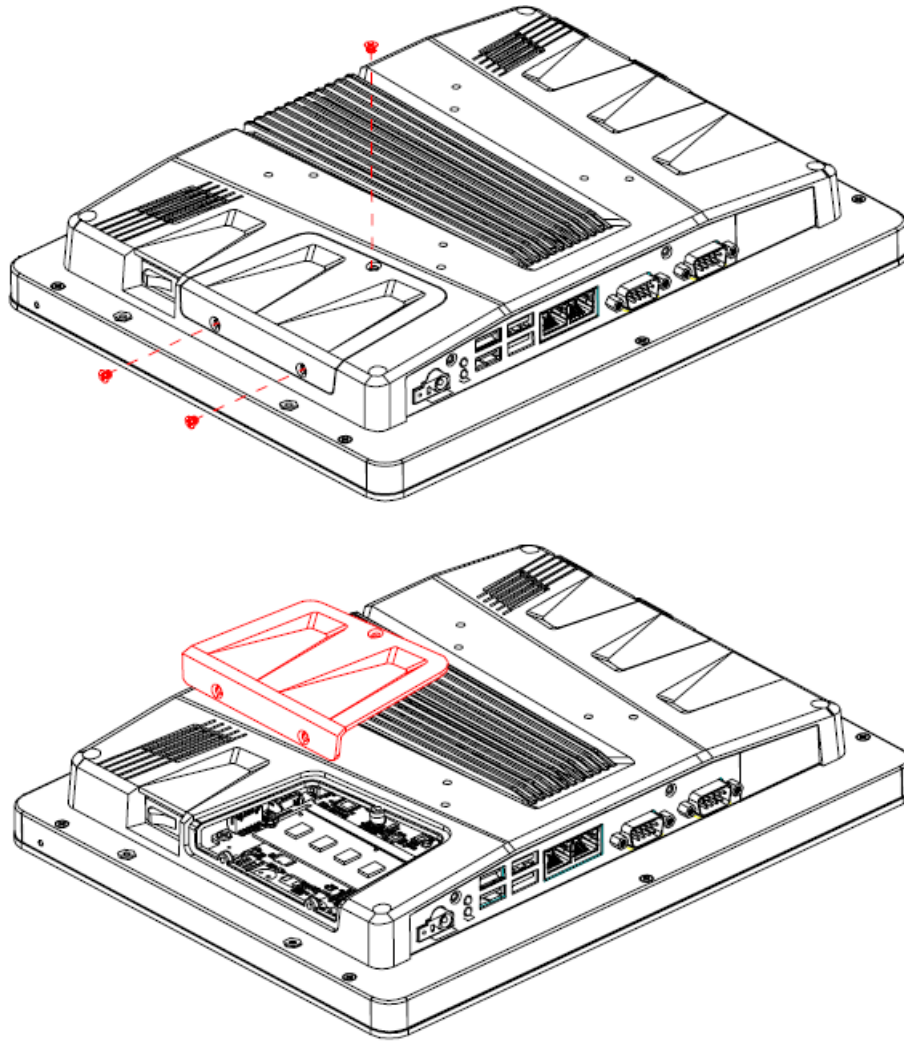
### 2.3.3 ARC-BYT DB-C

#### Connectors

Label	Function	Note
C_JPCIE1	Mini PCI Express connector	
C_JSIM1	SIM card slot (Push-push)	
C_JHDMI1	HDMI connector	
C_JB2B1	B2B connector	

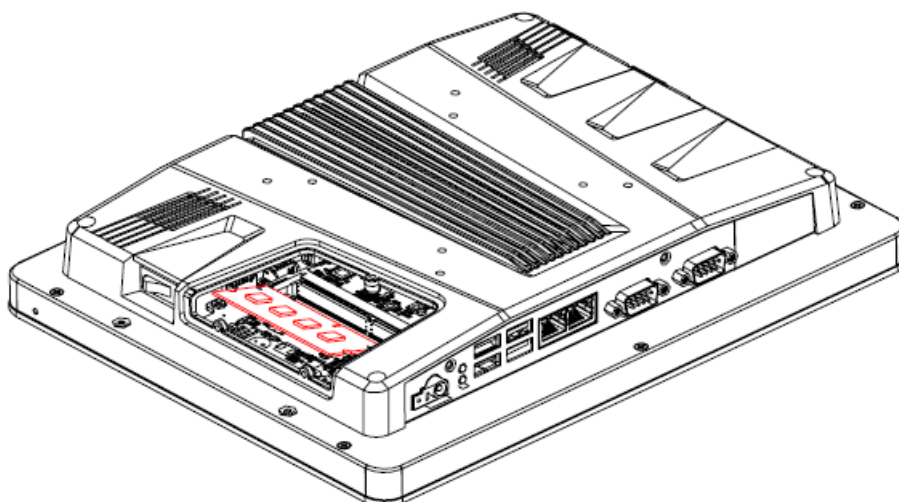
## 2.4 Installing Hard Disk & Memory

**Step 1. Memory Installation:** Remove 3 screws to release the chassis cover, and remove it.

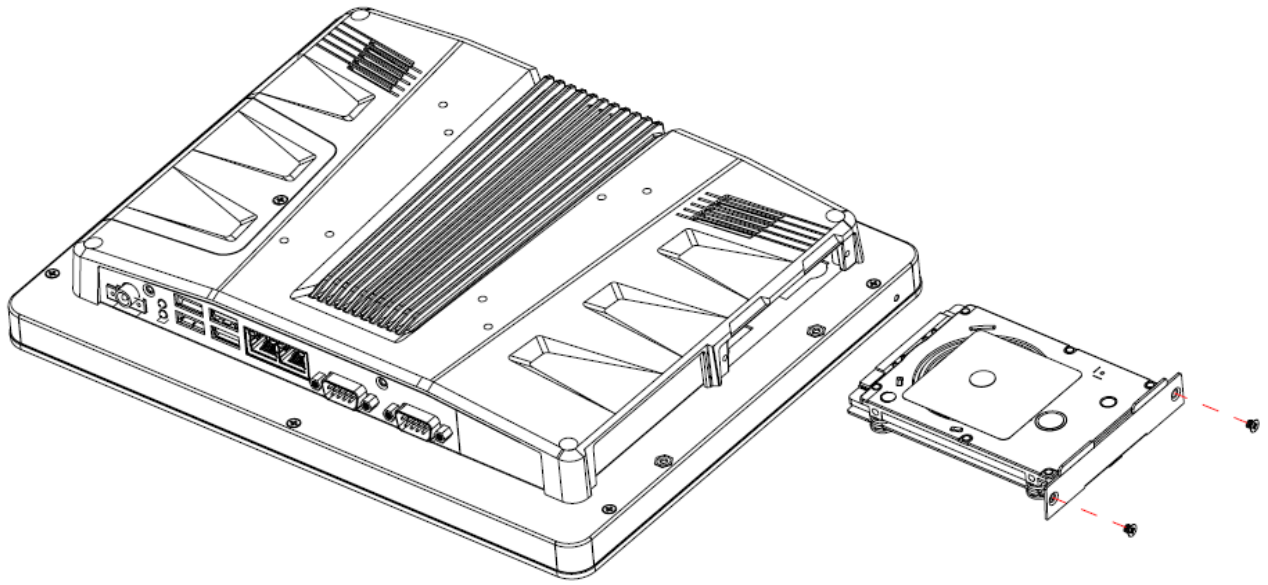


**Step 2.1** Insert the SODIMM into the memory socket.

**Step 2.2** Re-assemble your system back through previous steps to complete the installation.

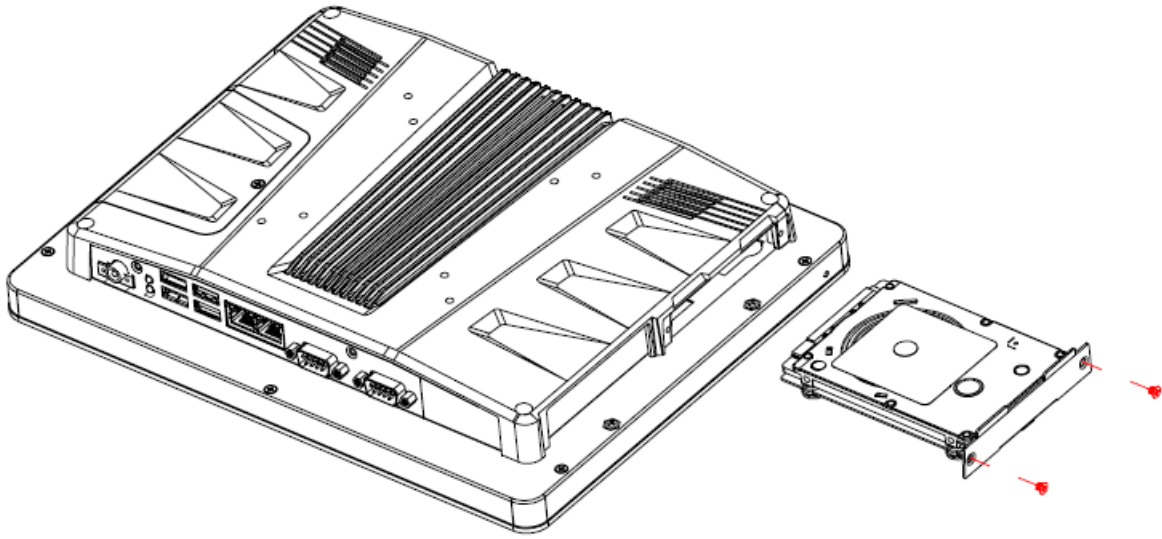


**Step 3. HDD Installation:** Insert the HDD into the Drive Bay and fasten 2 screws.

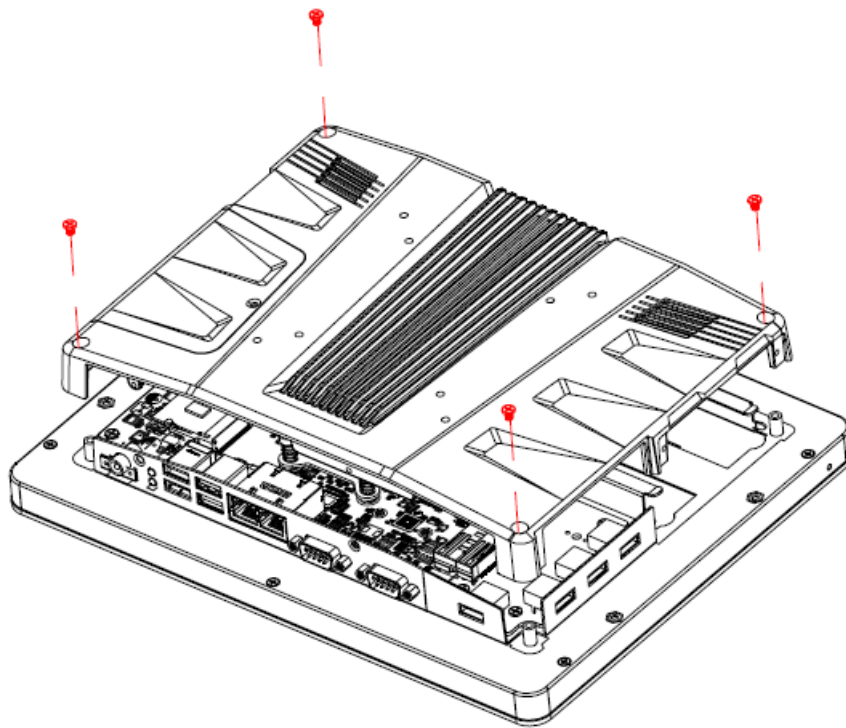


## 2.5 Installing ARC-BYT DB

**Step 1.** Unfasten 2 screws of the HDD bracket and take it off.



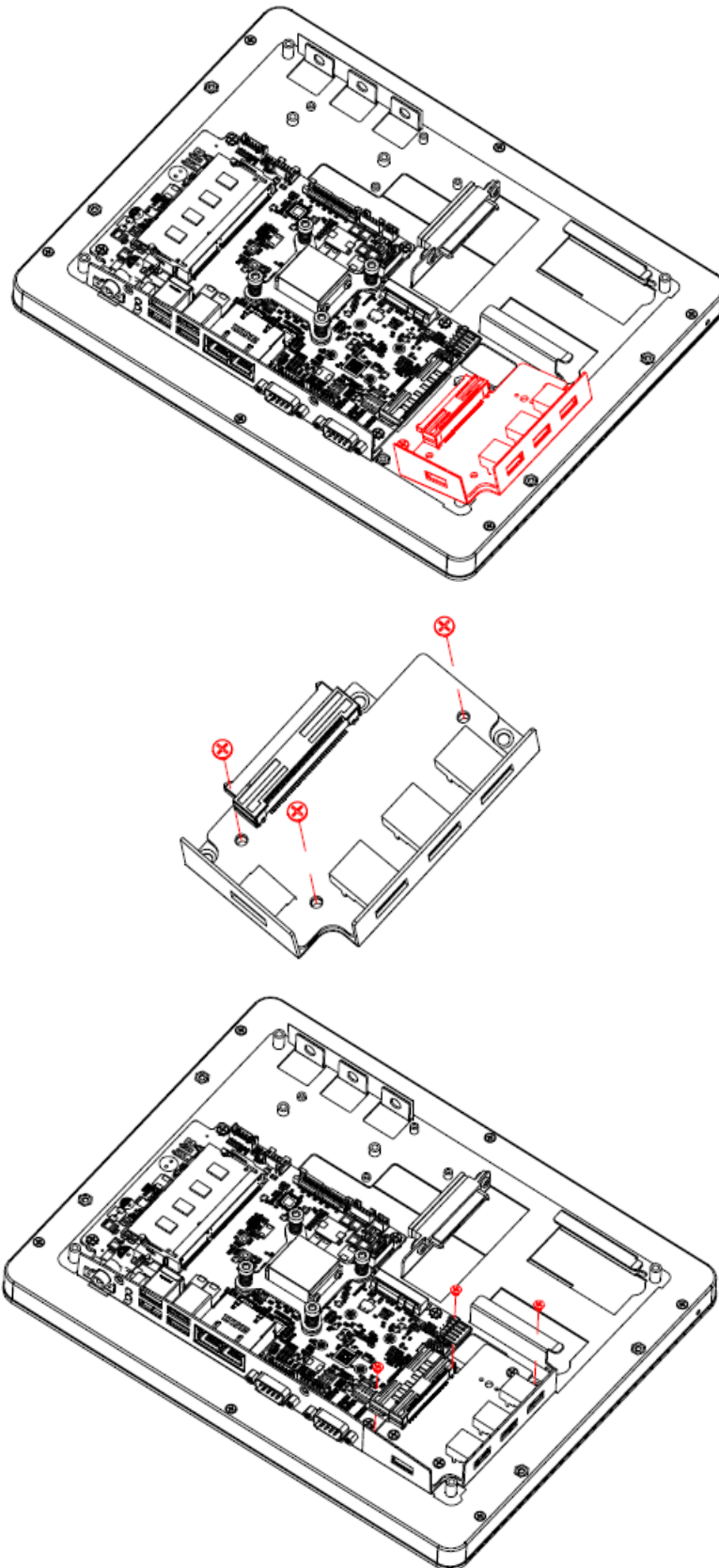
**Step 2.** Remove 4 screws to release the chassis cover, and remove it.





**Step 2.1** Insert the ARC-BYT DB into the socket and fasten 3 screws.

**Step 2.2** Re-assemble your system back through previous steps to complete the installation





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